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Protect your health.

Testimony of
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Environmental Working Group
Before the
Military Construction, Veterans Affairs and Related Agencies Subcommittee
of the
House Committee on Appropriations
on
Impact of PFAS Exposure on Service Members
March 11, 2020

Thank you for the opportunity to testify on the impact of PFAS exposure on service members. My name is Scott Faber, and I am the Senior Vice President for Government Affairs for the Environmental Working Group, a national environmental health organization that for two decades has sought to address the risks posed by per- and polyfluoroalkyl substances, a class of chemicals known as PFAS.¹

PFAS contaminate the blood and organs of nearly every living being, and experts estimate that 25 percent of Americans have troubling levels of PFAS in their blood serum.² PFAS are associated with serious health effects, even at very low amounts.³ In particular, PFAS exposure

¹ Bill Walker, *EWG and Toxic Fluorinated Chemicals: 20 Years in the Fight Against PFAS*, Environmental Working Group (July 24, 2019), <https://www.ewg.org/news-and-analysis/2019/07/ewg-and-toxic-fluorinated-chemicals-20-years-fight-against-pfas>

² Centers for Disease Control and Prevention, National Biomonitoring Program, Per- and Polyfluorinated Substances (PFAS) Factsheet, https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html. (last updated April 7, 2017). See also David Andrews, *Insight: The Case for Regulating All PFAS Chemicals as a Class*, Bloomberg Environment (May 20, 2019), <https://news.bloombergenvironment.com/environment-and-energy/insight-the-case-for-regulating-all-pfas-chemicals-as-a-class/>.

³ Impacts to mammary gland development have been associated with low level doses of PFOA. See, e.g., Madisa B. Macon et al, *Prenatal perfluoroocynoic acid exposure in CD-1 mice: low dose developmental effects and internal*

has been linked to kidney and testicular cancer, preeclampsia, ulcerative colitis, thyroid disease, high cholesterol,⁴ reproductive and developmental harm,⁵ and damage to the immune system.⁶

Americans are exposed to dozens of PFAS every day – through our food, water, air, dust, carpets, clothing and cosmetics. Once released into the environment, PFAS are highly mobile and do not break down – thus leading to the designation of PFAS as “forever chemicals.”

Because some PFAS have a long half-life in our bodies, they build up in our blood serum and organs.

Our military service members and their families are disproportionately affected by PFAS pollution. The primary source of PFAS at military installations is aqueous film-forming foam, or AFFF, a firefighting foam developed by the Department of Defense in the 1960s⁷ and first required by the Navy and the Marine Corps in 1967.⁸ Perfluorooctane sulfonate, or PFOS, is a component of “lightwater” AFFF, which can break down into many PFAS, including PFHxS.⁹ Older formulations of AFFF can also contain PFOA.¹⁰

dosimetry, 122 *Toxicological Sciences* 131 (2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3143465/>; Sally S. White et al., *Gestational and chronic low-dose PFOA exposures and mammary gland growth and differentiation in three generations of CD-1 mice*, 119 *Env'tl Health Perspectives* 1070 (2011), <https://www.ncbi.nlm.nih.gov/pubmed/21501981>; Dierdre K. Tucker et al., *The mammary gland is a sensitive pubertal target in CD-1 and C57Bl/6 mice following perinatal perfluorooctanoic acid (PFOA) exposure*, 54 *Reproductive Toxicology* 26 (2015), <https://www.ncbi.nlm.nih.gov/pubmed/25499722>. PFOA, PFOS, PFHxS and PFDeA are also associated with reduced effectiveness of vaccines, even at low doses. See Anna Reade, Tracy Quinn, & Judith S. Schreiber, *Scientific & Policy Assessment for Per- and Polyfluoroalkyl Substances in Drinking Water*, Natural Resources Defense Council (April 12, 2019), https://www.nrdc.org/sites/default/files/media-uploads/nrdc_pfas_report.pdf.

⁴ C8 Science Panel, C8 Probable Link Reports, http://www.c8sciencepanel.org/prob_link.html (last visited Jan. 25, 2020).

⁵ Alexis Temkin, *PFAS & Developmental & Reproductive Toxicity: An EWG Fact Sheet*, Environmental Working Group (Sept. 19, 2019), <https://www.ewg.org/news-and-analysis/2019/09/pfas-and-developmental-and-reproductive-toxicity-ewg-fact-sheet>.

⁶ Tasha Stoiber, *PFAS Chemicals Harm the Immune System, Decrease Response to Vaccines, New EWG Review Finds*, Environmental Working Group (June 21, 2019), <https://www.ewg.org/news-and-analysis/2019/06/pfas-chemicals-harm-immune-system-decrease-response-vaccines-new-ewg>.

⁷ U.S. Patent Office, *Method of Extinguishing Liquid Hydrocarbon Fires* (1966) https://static.ewg.org/reports/2019/pfas-dod-timeline/1963_Navy-Patent.pdf?_ga=2.186369001.1349300272.1583249998-10610461.1581526153

⁸ Dept. of the Navy, *Mil. Spec. Fire Extinguishing Agent, Aqueous Film Forming Foam (AFFF) Liquid Concentration, six Percent, For Fresh And Sea Water* (1967), https://static.ewg.org/reports/2019/pfas-dod-timeline/1967_AFFF-Required.pdf?_ga=2.76197845.1349300272.1583249998-10610461.1581526153

⁹ Interstate Technology Regulatory Council, *Aqueous Film-Forming Foam (AFFF)* (2018), <https://pfas-1.itrcweb.org/wp-content/uploads/2019/03/pfas-fact-sheet-aff-10-3-18.pdf>

¹⁰ *Idem*.

EWG has so far confirmed the presence of PFAS at 328 military installations.¹¹ Many service members, their families and residents of neighboring defense communities have been drinking water contaminated with PFAS for decades. In 2016, DOD reported PFOA and PFOS at levels greater than 70 parts per trillion, or ppt,¹² at 36 military installations, including 24 installations where DOD provides drinking water and 12 installations served by local water utilities.¹³ EWG found 16 other installations with PFOA or PFOS detections in drinking water below 70 ppt, the advisory level set by the EPA, but above the levels developed by the Centers for Disease Control and Prevention.¹⁴

Many of the highest PFAS detections in the nation have so far been found at DOD installations, including 14 detections above 1 million ppt and a single detection of PFHxS greater than 20 million ppt, at England Air Force Base, in Louisiana.¹⁵ The highest PFAS detection reported at Patrick Air Force Base, where Jim Holmes was stationed, was 4.3 million ppt.¹⁶ Other bases with high PFAS detections include Air Force Plant 4, in Fort Worth, Naval Air Station Jacksonville,

¹¹ See Environmental Working Group, PFAS Contamination in the US, https://www.ewg.org/interactivemaps/2019_pfas_contamination/map/ (last visited Mar. 09, 2020).

¹² DOD used EPA's Lifetime Health Advisory, which ignores many of the impacts of PFOA and PFOS. <https://www.nrdc.org/experts/anna-reade/epa-yet-again-fails-set-health-protective-levels-pfas>

¹³ Dept. of Defense, *Addressing Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)* (2018). Available at https://www.epa.gov/sites/production/files/2018-05/documents/dod_presentation_epa_summit_pfos_pfoa_may2018_final.pptxx_.pdf DOD concluded in 2015 that at least 36 installations were providing drinking water with PFOA or PFOS levels greater than 70 ppt. Those installations include: 81st RSC: E. Earle Rives AFRC, 99th RSC Martinsburg Memorial USARC, Barnes ANGB (104th), Belmont Armory, Camp Grayling Joint Maneuver Training Center, Dover AFB, Eielson AFB, El Campo, Ellsworth AFB, Fairchild AFB, Former KI Sawyer AFB, Former March AFB, Former Mather AFB, Former Pease AFB, Former Plattsburgh AFB, Former Wurtsmith AFB, Fort Hunter Liggett, Ft. Leavenworth, Gabreski ANGB (106th), Harrisburg IAP (ANG) (193rd), Horsham AGS (AGS), JB Lewis-McChord: Fort Lewis Cantonment, Joint Base Cape Cod, Joint Base McGuire Dix-Lakehurst, MCB Camp Pendleton (South), MCLB Barstow, Mountain Home AFB, NAS Oceana – NALF Fentress, NAS Whidbey Island – Ault Field, NAS Whidbey Island – OLF Coupeville, NAS Whiting Field (Main Base), Naval Base Kitsap – NARL Barrow, New Boston AFS, New Castle ANGB, NMC Earle, NSA Monterey – Naval Radio Transmitter Facility Dixon, Pease ANGB (157th), Peterson AFB, Warminster, Willow Grove. EWG has through FOIA requests since identified three additional installations with PFOA or PFOS levels greater than 70 ppt – Joint Force Training Base Los Alamitos, Cherry Point Marine Corps Air Station, and Sierra Army Depot.

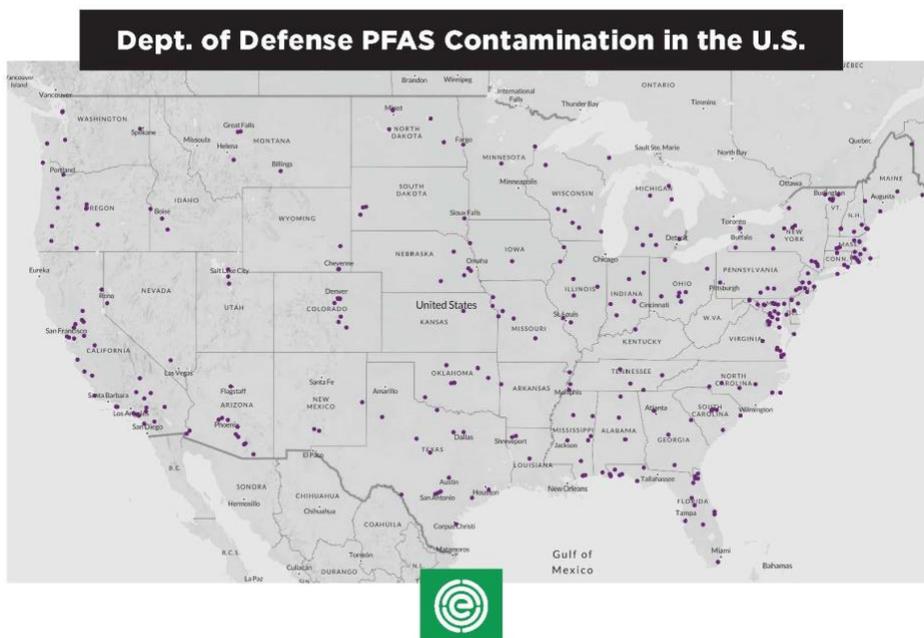
¹⁴ Centers for Diseases Control and Prevention, Agency for Toxic Substances and Diseases Registry, Toxicological Profile for Perfluoroalkyls, August 2018. Available at <https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=1117&tid=237>

¹⁵ See Environmental Working Group, Highest Levels of PFAS Contamination in Groundwater at U.S. Military Installations (last visited Feb. 9, 2020). https://cdn3.ewg.org/sites/default/files/u352/Top%20100%20PFAS.pdf?_ga=2.82030550.1349300272.1583249998-10610461.1581526153

¹⁶ Id.

Maxwell-Gunter Air Force Base, and Randolph Air Force Base.¹⁷ Of the 100 highest DOD detections so far reported, 69 were greater than 100,000 ppt.¹⁸

Communities near military installations are also disproportionately affected by PFAS pollution. In 2017, DOD found the levels of PFOA and PFOS exceeded 70 ppt in 564 off-base water systems.¹⁹ PFAS pollution that originated on military bases has created a contamination crisis in dozens of defense communities, from Pease Air Force Base,²⁰ in New Hampshire, to Wurtsmith Air Force Base,²¹ in Michigan, to Peterson Air Force Base,²² in Colorado.



¹⁷ See Environmental Working Group, “PFAS Contamination in the U.S.,” https://www.ewg.org/interactivemaps/2019_pfas_contamination/map/ (last visited Mar. 09, 2020).

¹⁸ See Environmental Working Group, “The 100 Military Sites with the Worst PFAS Contamination,” <https://www.ewg.org/news-and-analysis/2019/10/100-us-military-sites-worst-pfas-contamination> (last visited Mar. 10, 2020).

¹⁹ *Supra* note 13.

²⁰ ATSDR, Per- and Polyfluoroalkyl Substances and Your Health, Pease Study (last visited Mar. 9, 2020) <https://www.atsdr.cdc.gov/pfas/Pease-Study.html>

²¹ Michigan PFAS Action Response Team, Former Wurtsmith Air Force Base Historical Timeline (last visited Mar. 9, 2020) https://www.michigan.gov/pfasresponse/0,9038,7-365-86511_82704_83952_93971---,00.html

²² Dan Boyce, CPR News, Despite A \$50M Cleanup, Residents Still Bear The Costs Of Peterson AFB’s Water Contamination, July 31, 2019 (last visited Mar. 09, 2020) <https://www.cpr.org/2019/07/31/despite-a-50m-cleanup-residents-still-bear-the-costs-of-peterson-afbs-water-contamination/>

Military firefighters like Kevin Ferrara, who is here today, are especially vulnerable to the effects of PFAS pollution. PFAS levels at Chanute Air Force Base, where military firefighters like Kevin were trained for decades, exceeded 600,000 ppt.²³ What's more, military firefighters like Kevin routinely trained using AFFF without proper protective equipment but were not warned of the risks.²⁴ Studies demonstrate that firefighters have higher levels of PFAS in their blood serum than the general population.²⁵

The DOD has long known about the toxic effects of PFAS pollution. In 1973, an Air Force report cited the toxic effects of AFFF on fish and recommended the use of "activated carbon" filters²⁶ for drinking water. Subsequent Air Force and Navy reports in 1974,²⁷ 1976,²⁸ and 1978²⁹ also cited the toxic effects of AFFF on fish. In 1983, animal studies financed by the Air Force

²³ Scott Faber, *To Support Military Families, Congress Must Pass the PFAS Action Act*, Environmental Working Group (Jan. 9, 2020) <https://www.ewg.org/news-and-analysis/2020/01/support-military-families-congress-must-pass-pfas-action-act>. Military firefighters trained at Chanute Air Force Base from 1965 to 1993.

<http://www.dodfire.com/History/Academy.htm> PFAS is also present at Goodfellow Air Force Base, where the military firefighters are currently trained. https://earthjustice.org/sites/default/files/files/filed_complaint_-_pfas_incineration_suit.pdf

²⁴ Id.

²⁵ See e.g. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4274322/> and <https://www.sciencedirect.com/science/article/abs/pii/S0378427414013307>

²⁶ Dept. of the Air Force, *Treatability of Aqueous Film-Forming Foams Used for Fire Fighting* (1973) https://static.ewg.org/reports/2019/pfas-dod-timeline/1973_Kroop-Report.pdf?_ga=2.139610099.1349300272.1583249998-10610461.1581526153

²⁷ USAF Environmental Health Laboratory, *Biodegradability and Toxicity Of Light Waters Fc206, Aqueous Film Forming Foam* (1974) https://static.ewg.org/reports/2019/pfas-dod-timeline/1974_Biodegradability-and-Toxicity-of-ANSUL-K74-100-Aqueous-Film-Forming-Foam.pdf?_ga=2.140200819.1349300272.1583249998-10610461.1581526153

²⁸ Naval Research Laboratory, *R&D Final Report on DOD-AGFSRS-76-10 (MIPR FY 7615-76-05063) Improved Environmental Impact Properties for AFFF Materials* (1976) https://static.ewg.org/reports/2019/pfas-dod-timeline/1976_Navy-Study.pdf?_ga=2.144814068.1349300272.1583249998-10610461.1581526153

²⁹ Department of the Navy, *Candidate Environmental Impact Statement Draft on Discharging Firefighting System Aqueous Film Forming Foam AFFF into Harbors; Status and Synopsis of* (1978) https://static.ewg.org/reports/2019/pfas-dod-timeline/1978_Navy-Study.pdf?_ga=2.144814068.1349300272.1583249998-10610461.1581526153

found some long-chain PFAS were toxic.³⁰ In 1985, Navy experts once again cited the toxic effects of AFFF on fish³¹ and, in 1989, called for better management of AFFF waste.³²

DOD was alerted in 2000 that 3M was no longer going to produce PFOS,³³ and a DOD 2001 memo concluded that the main ingredient in AFFF was “persistent, bioaccumulating, and toxic.”³⁴ Months later, an EPA official reiterated to DOD the risks posed not just by PFOS but by the entire class of PFAS chemicals.³⁵ But DOD officials waited another decade to issue a “risk alert,”³⁶ and did not take steps to replace AFFF until 2015³⁷ – despite a 1991 Army Corps of Engineers recommendation that AFFF “be replaced with nonhazardous substitutes.”³⁸ What’s more, the PFAS in replacement foams have been linked to many of the same health effects as PFOS,³⁹ ultimately leading Congress last year to direct the DOD to phase out the use of fluorinated foams altogether.⁴⁰

³⁰ Air Force Aerospace Medical Research Laboratory, *The Toxicity of Perfluoro-n-decanoic Acid and 2,3,7,8-Tetrachlorodibenzo-p-dioxin in L5178Y Mouse Lymphoma Cells* (1983)

https://static.ewg.org/reports/2019/pfas-dod-timeline/1983_Air-Force-Study.pdf?_ga=2.180913383.1349300272.1583249998-10610461.1581526153

³¹ Naval Ocean Systems Center, *Toxicity of Aqueous Filmforming Foams to Marine Organisms: Literature Review and Biological Assessment* (1985)

https://static.ewg.org/reports/2019/pfas-dod-timeline/1985_Navy-Study.pdf?_ga=2.147975031.1349300272.1583249998-10610461.1581526153

³² AF Occupational and Environmental Health Laboratory, *Biological Analysis of Three Ponds at Peterson AFB, Colorado Springs CO* (1989) https://static.ewg.org/reports/2019/pfas-dod-timeline/1989_Airforce-Study.pdf?_ga=2.114921415.1349300272.1583249998-10610461.1581526153

³³ Dept. of the Navy, *Minutes Of the DOD AFFF Environmental Meeting* (2000)

https://static.ewg.org/reports/2019/pfas-dod-timeline/2000_Navy-Memo.pdf?_ga=2.85102169.1349300272.1583249998-10610461.1581526153

³⁴ Dept. of Defense (Force Protection), *Aqueous Film Forming (AFFF) Workshop* (2001)

https://static.ewg.org/reports/2019/pfas-dod-timeline/2001_DoD-Memo.pdf?_ga=2.81300439.1349300272.1583249998-10610461.1581526153

³⁵ Environmental Protection Agency, *DoD AFFF Workshop, Pentagon* (2001)

<https://assets.documentcloud.org/documents/4358461/2001-EPA-DoD-Meeting-on-AFFF.pdf>

³⁶ Dept. of Defense, *Chemical & Material Emerging Risk Alert Aqueous Film Forming Foam (AFFF)*, (2011)

<https://www.denix.osd.mil/cmrmf/ecmr/ecprogrambasics/resources/chemical-material-emerging-risk-alert-for-afff/>

³⁷ <https://assets.documentcloud.org/documents/4348999/Reach-More-Than-74M.pdf>

³⁸ U.S. Army Corps of Engineers, *Hazardous Waste Minimization Assessment: Fort Carson, Colo.* (1991)

https://static.ewg.org/reports/2019/pfas-dod-timeline/1991_Army-Corp-of-Engineers.pdf?_ga=2.110669765.1349300272.1583249998-10610461.1581526153

³⁹ Environmental Protection Agency, *Factsheet: GenX Chemical and PFBS Draft Toxicity Assessments* (2018),

https://www.epa.gov/sites/production/files/2018-11/documents/factsheet_pfbs-genx-toxicity_values_11.14.2018.pdf

⁴⁰ SEC. 318 H.R.2500 – National Defense Authorization Act for Fiscal Year 2020

<https://www.congress.gov/bill/116th-congress/house-bill/2500/text>

It remains unclear whether 3M, which manufactured PFOS and collaborated with the Navy to develop AFFF,⁴¹ alerted DOD officials to the toxic effects of PFAS before 2000. The 1973 Air Force report notes that 3M also conducted toxicity studies on fish,⁴² but a 1978 Navy report cited “difficulties” getting “any useful information” from 3M on the “proprietary” components of AFFF.⁴³ In 1976, 3M sent a letter⁴⁴ that downplayed the impact of AFFF on fish – even though the toxic effects of PFAS were well known to 3M at the time.⁴⁵ By 1976, 3M had conducted internal animal studies that documented the toxic effects of PFAS⁴⁶ and been alerted to the fact that PFAS was building up in blood.⁴⁷

What is clear is that DOD has been slow to alert service members to the risks of PFAS and slow to clean up legacy PFAS contamination.⁴⁸ Although the DOD has reduced PFAS in the drinking water currently being served to active duty service members and has used appropriated funds to remediate some legacy contamination, most legacy PFAS pollution has not been cleaned up. Some DOD officials have cited the absence of a “hazardous substance” designation when refusing to remediate legacy PFAS near military installations. For example, the Air Force cited the absence of a “hazardous substance” designation when refusing to clean up PFAS pollution near Wurtsmith Air Force Base, in Michigan.⁴⁹

⁴¹ Naval Research Laboratory, *Seventy Years of Science for the Navy and the Nation [1923-1993]*, (1994)

https://static.ewg.org/pdf/Navy_3M_1960s.pdf

⁴² Dept. of the Air Force, *Treatability of Aqueous Film-Forming Foams Used for Fire Fighting* (1973)

https://static.ewg.org/reports/2019/pfas-dod-timeline/1973_Kroop-Report.pdf?_ga=2.139610099.1349300272.1583249998-10610461.1581526153

⁴³ Department of the Navy, *Candidate Environmental Impact Statement Draft on Discharging Firefighting System Aqueous Film Forming Foam AFFF into Harbors; Status and Synopsis of* (1978)

https://static.ewg.org/reports/2019/pfas-dod-timeline/1978_Navy-Study.pdf?_ga=2.144814068.1349300272.1583249998-10610461.1581526153

⁴⁴ Department of the Navy, *Appendix E, Candidate Environmental Impact Statement Draft on Discharging Firefighting System Aqueous Film Forming Foam AFFF into Harbors; Status and Synopsis of* (1978)

https://static.ewg.org/reports/2019/pfas-dod-timeline/1978_Navy-Study.pdf?_ga=2.144814068.1349300272.1583249998-10610461.1581526153

⁴⁵ See Environmental Working Group, “For Decades, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public” (last visited Mar. 09, 2020). <https://www.ewg.org/pfastimeline/>

⁴⁶ See Industrial Bio-Test Laboratories Inc., *Report to Minnesota Mining and Manufacturing Company [3M]. Acute Oral Toxicity Studies on Two Materials IBT No. A4414* (1966) https://static.ewg.org/reports/2019/pfa-timeline/1966_Acute-OralTox.pdf?_ga=2.232569309.331785608.1583150004-35917226.1571063173

⁴⁷ 3M Interoffice Correspondence, *Record of a Telephone Conversation-- August 14, 1975 – Subject: Fluorocarbons in Human Blood Plasma* (1975) https://static.ewg.org/reports/2019/pfa-timeline/1975_Dr-Guy.pdf?_ga=2.161069439.331785608.1583150004-35917226.1571063173

⁴⁸ EPA has also been slow to respond to the PFAS contamination crisis. <https://www.ewg.org/epa-pfas-timeline/>

⁴⁹ Dept. of the Air Force, *Violation Notice No. VN-008900, Substantive Requirements Document (SRD) No. MIU990034 Designated Name: USAF-Wurtsmith AFB, MI* (2018)

DOD has taken other steps to limit its responsibility for legacy PFAS pollution. For example, it has proposed a “screening level” that is 10 times higher than the level proposed by EPA for sites where only one kind of PFAS is detected.⁵⁰ DOD has also sought to weaken groundwater cleanup standards at military installations. Although EPA has proposed a groundwater cleanup standard of 70 ppt, DOD has instead advocated for cleanup standards of 380 ppt⁵¹ or 400 ppt.⁵² It remains to be seen whether DOD will meet state standards when cleaning up legacy PFAS pollution or providing drinking water at its facilities.⁵³

Congress should not wait any longer to address the serious public health risks PFAS pose to our service members, their families and to neighboring communities. To address these risks, Congress should:

Phase out fluorinated firefighting foams. The National Defense Authorization Act for FY 2020 requires DOD to largely phase out the use of fluorinated foams by 2024, but Congress should accelerate the deployment of alternative foams.⁵⁴

[michigan.gov/documents/pfasresponse/Letter_from_USAF_Termaath_to_DEQ_Seidel_dated_120718_648045_7.pdf](https://www.michigan.gov/documents/pfasresponse/Letter_from_USAF_Termaath_to_DEQ_Seidel_dated_120718_648045_7.pdf)

⁵⁰ In particular, DOD has proposed: a screening level of 400 PPT when investigating sites where only PFOA or PFOS occur; a screening level of 400,000 PPT where only PFBS occurs; and a screening level of 40,000 ppt where PFBS occurs with other PFAS. Dept. of Defense, *Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program* (2019) <https://www.documentcloud.org/documents/6547719-DOD-Screening-Level.html>

DOD calculates screening levels by stating that it intends only to apply a 0.1 hazard quotient when there are multiple PFAS found at one site. Although that approach is consistent with EPA practice for setting screening levels for some chemicals, it diverges dramatically from EPA’s proposed RSLs for PFOA and PFOS. For more information, visit https://www.epa.gov/sites/production/files/2019-04/documents/draft_interim_recommendations_for_addressing_groundwater_contaminated_with_pfoa_and_pfos_public_comment_draft_4-24-19.508post.pdf

⁵¹ Dept. of Defense, *Alternatives to Aqueous Film Forming Foam Report to Congress* (2018) <https://www.documentcloud.org/documents/5766754-2018-06-DOD-AFFF-Alt-Report-to-Congress-July2018-1.html>

⁵² Sen. Tom Carper, Letter to EPA Administrator Andrew Wheeler, March 13, 2019 <https://www.documentcloud.org/documents/5767384-03-13-19-Senator-Carper-to-EPA.html>

⁵³ States with promulgated rules on PFAS in ground, drinking or surface water: Alaska, California, Connecticut, Colorado, Montana, New Hampshire, New Jersey, Oregon and Vermont. For more information, visit <https://pfas-litrcweb.org/fact-sheets/>.

⁵⁴ More than 100 flourine-free alternatives have been developed by 24 companies. For more information, visit http://theic2.org/article/download-pdf/file_name/Per_and_Polyfluorinated_Substances_in_Firefighting_Foam_040919.pdf

Phase out other non-essential uses of PFAS. Sec. 330B of the NDAA for FY 2020 prohibits DOD use of PFAS in military food packaging,⁵⁵ but Congress should take additional steps to phase out non-essential uses of PFAS, such as in cosmetics, cookware and textiles.

Properly dispose of PFAS waste. Congress should immediately suspend DOD incineration of PFAS waste until the DOD ensures that incineration breaks down PFAS and eliminates hazardous PFAS byproducts, as required by Sec. 330 of the NDAA of FY 2020.⁵⁶

Quickly remediate legacy PFAS pollution. Congress should expand funding for programs like the Defense Environmental Restoration Program to quickly remediate legacy PFAS pollution. Congress should also designate PFAS as hazardous substances under CERCLA, as proposed in H.R. 535, to expedite PFAS remediation and ensure that responsible parties share the cost of cleanup.

Notify DOD personnel and defense communities. Congress should expand monitoring for PFAS on and near military installations and create a mechanism whereby DOD can notify military personnel, their families and neighboring communities about their potential exposure to PFAS, such as the PFAS registry proposed in H.R. 2195.⁵⁷ Congress should also ensure that military veterans, including military firefighters like Kevin, are eligible for blood testing for PFAS in their blood serum.⁵⁸

Thank you for the opportunity to testify on the impacts of PFAS exposure on service members.

⁵⁵ FY2020 National Defense Authorization Act, H.R. 2500, 116th Cong. § 1 (2019)
<https://www.congress.gov/bill/116th-congress/house-bill/2500/text#toc-HD71B51E45A8A4B4EB0F0C06E5C87D223>

⁵⁶ Compl. for Declaratory and Inj. Relief at 2-3, *Save Our Cty. v. United States Def. Logistics Agency*, No. 3:20CV01267(SK) 2020 U.S. Dist. (N.D. Cal. Feb. 20, 2020) available at
https://earthjustice.org/sites/default/files/files/filed_complaint_-_pfas_incineration_suit.pdf

⁵⁷ DOD has created several registries related to exposures to toxic chemicals, including registries for military personnel exposed to Agent Orange, Burn Pits, Ionizing Radiation, and Depleted Uranium. In addition, CDC is assessing the impacts of PFAS exposure at 8 current and former military installations.
<https://www.cdc.gov/media/releases/2019/p0221-cdc-atsdr-pfas-exposure.html>

⁵⁸ Sec. 707 of H.R. 2500, the National Defense Authorization Act for FY 2020, requires blood testing for PFAS during annual physicals for military firefighters. <https://docs.house.gov/billsthisweek/20191209/CRPT-116hrpt333.pdf>